making our highways safer:

INDOT invests in arsenal to fight winter conditions

Between October and March, INDOT's subdistricts direct their attention to combating snow and ice. Preparations at the 120 maintenance units begin as early as September each year. At the annual snow and ice inspections, all pieces of equipment are thoroughly inspected and the material supplies are replenished.

In 2003, INDOT made great strides in its winter operations procedures. Not only did the department invest in high-tech weather prediction resources, but it also refined its procedures for applying anti-icing materials.

A Road Weather Information System (RWIS) was established to provide INDOT with current weather information including pavement and deck temperatures. A Web site displays a map of Indiana with 31 statewide RWIS sites. The weather data obtained from these sites provides a tool for making decisions regarding snow and ice removal. It is also utilized by our weather forecasters to predict pavement and deck temperatures.

INDOT also redeveloped its salt and anti-icing material storage facilities. All new salt storage facilities are designed to allow delivery and loading under roof. Salt is contained in the storage structures, which provides for easier loading/unloading of snowplows and protects the environment from saltwater run-off. These storage buildings range from 400 to 7,600 tons in capacity.

A relatively new proactive anti-icing treatment for snow and ice control is now being used on a statewide basis. Selected high volume routes are sprayed with a liquid, usually salt brine, to get a jump on forecasted winter storms and for frost control hours or days before snow falls. The liquid in the brine evaporates, leaving a layer of salt that is activated as soon as moisture touches the pavement.

Anti-icing prevents snow and ice from bonding to the pavement and makes snow and ice removal easier. This anti-icing liquid allows less material to be used in the long run. This is the most efficient and cost-effective use of material. The end result is safer roads for Indiana citizens.

Rock salt is the most widely used anti-icing agent because of its cost and effectiveness. When the temperature remains above 25 degrees, salt can melt snow and ice and prevent the bonding of compacted snow to the pavement's surface. Once the temperature falls below 25 degrees, INDOT often adds a small amount of liquid, usually calcium chloride or magnesium chloride, to increase the salt's effectiveness.

Over the past 10 years, INDOT averaged 335,147 tons of salt used statewide. The 10-year average for each district is:

- Crawfordsville–44,648 tons
- Fort Wayne–55,836 tons
- Greenfield–59,213 tons
- LaPorte–90,297 tons
- Seymour–33,628 tons
- Toll Road–25,774 tons
- Vincennes–25,752 tons

extending the life of our highways

In keeping with our goal of ensuring safe travel for Hoosiers, INDOT spends more than $70 million a year on winter operations maintaining state roadways, bridges and right of way. These operations are handled through the department's seven districts, 32 subdistricts and four Toll Road maintenance units.

The primary objective of INDOT's maintenance operations is to extend the life of roadways and bridges by taking water away from and out from under the roadway and into ditches, creeks or rivers.

Smoother pavement provides safer travel. Crews patch potholes year-round to make the road surface smoother and to make sure water does not gather under pavement. Crews also seal gaps between the driving lanes and shoulders so that water can flow away from the travel lanes and into the ditches where it can be carried into creeks and rivers. To ensure the safety of bridge decks and to prevent the accumulation of winter materials, crews hand-clean and flush drains on more than 8,000 bridges each year.

Other maintenance activities are done away from the roadway. These responsibilities include pipe replacement, bump repair, mowing and trimming state right of way, trimming trees, fixing right of way fences, repairing crash attenuators and guardrails and picking up litter and road hazards.

training safer drivers

In 2003, INDOT held its third annual Safety Truck Roadeo, a competition aimed at rewarding those drivers who safely and efficiently maneuver equipment. The Safety Truck Roadeo is held at the subdistrict, district and statewide levels.

In this competition, drivers compete in an obstacle course consisting of eight different stations. Drivers maneuver the trucks, which are mounted with a plow and a spreader, through a maze of cones and barrels and completely inspect their vehicle.

Any driver with a valid CDL license who is in a union-eligible job classification is invited to compete in the subdistrict level of competition in August. The top three drivers from each subdistrict advance to the district competition, held each September. The top two district employees then advance to the state competition, which is held each year at the Indianapolis Motor Speedway.

This is an innovative way to reinforce safety and improve skills, while promoting some friendly competition.

While the annual Safety Truck Roadeo focuses on training and improving the skills of drivers, INDOT also developed a new training program for field supervisors in spring 2004. The program promotes supervisor accountability and reinforces policies and procedures set forth by IOSHA and the State of Indiana.

This program took representatives from Human Resource's training section and Operations Support's safety section approximately one year to develop.

by the numbers

During 2003, maintenance crews:

- sealed almost 1,420 miles of shoulders
- sealed 4,610 miles of cracks
- worked on 747,557 feet of ditches
- replaced 298 underground pipes
- cleaned 65,292 drainage structures
- cleaned 8,472 bridges
- logged 377,344 overtime hours for snow removal
- spread 532,854 tons of salt
- used 389,583 gallons of calcium chloride and 161,643 gallons of magnesium chloride
- used 824,221 gallons of salt brine